#201

INDIVIDUAL TECHNICAL ASSISTANCE REPORT

In Response to a Request for Technical Assistance

By the

Arlington, Texas, Police Department

October 8, 1973

Prepared by:

Public Administration Service
1313 East 60th Street
Chicago, Illinois 60637

(Per Contract J-LEAA-015-72)

I. PRELIMINARY INFORMATION

A. Consultant Assigned:

Charles M. Friel, Ph.D.
Director of Research
Sam Houston State University
Institute of Contempory Corrections
and the Behavioral Sciences

Michael R. Stewart
Utah Criminal Justice
Information System Coordinator
Salt Lake City, Utah

B. Date Assignment Received:

June 11, 1973

C. Date of Contact with LEAA Regional Coordinator:

June 14, 1973

D. Dates of On-Site Consultation:

Friel—June 27–29, 1973
Stewart—June 28–30, 1973

E. Individuals Contacted:

J. D. McGee
Assistant Chief of Police

II. STATEMENT OF THE PROBLEM

A. Problem as per Request for Technical Assistance:

Provide technical assistance to determine what type of records system will best serve the present and future needs of the Arlington Police Department.

B. Problems Actually Observed:

As Stated.

III. FACTS BEARING ON THE PROBLEM

See attached Consultant's Report.

IV. DISCUSSION OF POSSIBLE COURSES OF ACTION

See attached Consultant's Report.

V. RECOMMENDED COURSE OF ACTION

See attached Consultant's Report.

CONSULTANT'S REPORT

INTRODUCTION AND SCOPE

Arlington, Texas, is centrally located in a large metropolitan area with several university student residential communities, a large tourist population, and an abundance of transient housing. All of these factors increase the City's susceptibility to various forms of criminal activity. This activity may take the form of criminal operations based or originating from Arlington. Criminal operations, however, are also directed at the community from the surrounding communities of Dallas and Fort Worth. This "spill over" of criminal activities into the Arlington area is a direct result of intensified police operations in these surrounding areas.

A possible solution to the problems discussed above would be to optimize the utilization of available police personnel and improve technology within the Arlington Police Department. The specific needs recognized by this project are: (1) to automate the Department's current records storage and retrieval procedures as a means of achieving a higher degree of operational efficiency; (2) to reduce the bulk of stored documents through microfilm or magnetic tape capabilities; and (3) to decrease the expenditures and staff time currently allocated for records maintenance.

The automated record storage and retrieval system proposed in this project will be implemented under the supervision of the Project Director, Assistant Chief of Police, J. D. McGee. The implementation process will involve the securing of final bids on the equipment to be purchased, its installation, and the training of department personnel involved in its operation (actual training will be provided by the vendor). The Project Director will also execute those changes in department staffing patterns and work flow, required as a result of the system's effect on department operations and procedures.

Twelve months have been allocated to complete the implementation process. However, it is felt that this can be accomplished in a lesser period of time, as the Department is in great need of the record storage and retrieval system proposed, and will undertake its procurement and installation immediately upon approval of the grant application.

The scope of this project includes:

1. Reducing the bulk of stored record information.
2. Reducing file error factor.
3. Decreasing index file storage and retrieval time.
4. Maximizing personnel utilization necessary to maintain the proposed system.

PROPOSAL CONTENTS

The proposal must address both hardware and vendor support services (systems design, implementation planning, and user training).

Hardware System Components

1. Requirements:

   1.1. All systems components must be compatible.

   1.2. Components required are:

   - Planetary camera.
   - Microfilm cartridge reader.
   - Microfilm cartridge reader/printer.
   - Mini-computer for indexing paper copy and microfilm files, including video display and random access storage capabilities.

   1.3 The mini-computer indexing component may be a stand-alone unit or may be integrated with the reader to provide automatic retrieval.

   1.4 The mini-computer indexing component must be capable of providing an index to active files prior to microfilming.

2. Component Specification:

   2.1. Planetary Camera:

   - Reduction 20x to 30x (Reader must generate 1 to 1 ratio).
   - Copy size accepted 10 inches wide to 15 inches long minimum.
   - Film size 16 MM x 100 feet.
   - Automatic exposure control.

   2.2. Microfilm Cartridge Reader:

   - Film size 16 MM x 100 feet.
   - Minimum screen size 10 inches x 15 inches.
   - 20x to 30x magnification.
   - Frame count or odometer retrieval capability.

2.3. Microfilm Cartridge Reader/Printer:

- Film size 16 MM x 100 feet.
- Minimum screen size 10 inches x 15 inches.
- Zoom lens magnification with range of 20x to 35x.
- Frame count or odometer retrieval capability.
- Minimum print size 8—1/2 x 11.
- Printer speed maximum of 12 seconds per print.
- Dry copy process.

2.4. Mini-Computer Indexing System:

- Random access storage capacity of at least two million alpha numeric characters.
- Video terminal input and display.
- Minimum video terminal capacity of 500 characters.
- Maximum average access time of 10 seconds.
- File backup capability.
- File purge capability.
- On-line update capability.
- On-line search capability.
- May be stand-alone unit to microfilm hardware.
- Must provide index for paper files prior to microfilming.

2.5. Processor:

- Film develop two rolls 16 MM or one 35 MM roll. Up to 100 feet.
- Minimum of 2.5 feet per minute.
- Complete with stand and water mixing controls.

3. Proposal Response:

3.1. The proposal must fully describe the equipment and specify the purchase price of each component.

3.2. The mini-computer indexing component software must be described, including a description of the file organization, data record formats, and methods of adding, updating, and purging records.

3.3. Add-on equipment beyond the specifications set forth in this proposal will be accepted as part of a total proposed system.

3.4. Maintenance provisions must be identified for each hardware component.

3.5. Supplies necessary for conversion must be identified separately from those required to support the on-going system.

3.6. Manpower requirements for conversion must be identified.

3.7. Manpower requirements for the on-going system must be identified.

Systems Design

1. General Design Criteria:

   A primary consideration in the design of the system is to provide a simple, direct method of microfilming and retrieval which will require a minimal amount of manpower to maintain. To accomplish this goal, those files which are volatile and require a substantial amount of updating should be maintained as paper files. The paper files should be maintained until they become essentially inactive and then microfilmed. However, the paper files must be indexed on the mini-computer indexing system at the time they are created.

   The computer index must be updated to reflect the location of the microfilm copy after microfilming.

   Prior to starting the microfilm conversion of existing files, the files must be purged of obsolete documents. Criteria must be established for the file purge which will be in accordance with statutory and operational requirements.

2. System Design Components:

   The system design effort must include the following tasks:

   a. Establish purge criteria for existing files.

   b. Define procedures for converting existing files to microfilm and indexing those files.

   c. Define operational procedures for updating the paper files.

   d. Define paper files retentic · (prior to microfilming) requirements and procedures for microfilming and i· .e paper files after they become inactive.

e. Define procedures for microfilming and indexing updates to files which have already been microfilmed.

f. Define standards and procedures for purging index records from the on-line computer index and for maintaining the purged index records off-line.

g. Project work loads and define costs of maintaining the system for a five—year period.

3. Proposal Response:

Define methodology for completing the systems design and describe the documentation which will be produced.

User Training

The proposal must describe the techniques and documentation to be provided for training the users in the following areas:

1. Purging existing files.
2. Operation of microfilm hardware and software.
3. File indexing and retrieval.
4. File updating.
5. Other systems operation.

Implementation Planning

Implementation planning will consist of developing a time phased plan for:

1. Delivery of hardware.
2. Completion of the systems design.
3. User training.
4. Software development (if required).
5. Purge of existing files.
6. Conversion and indexing of existing files.
7. Start-up of daily system operation.

The proposal must discuss each of these major milestones in detail and describe how each will be achieved.

COSTS OF PROPOSED SYSTEM

The proposal must contain itemized costs for all components of the system. These costs should reflect all costs that will be incurred during the project period, as well as projected costs for the first five years of operations.

Projected costs should reflect work load increases. The costs of the system should be reflected in the following categories:

1.1 Basic equipment.

1.2. Add-on equipment.

1.3. Conversion costs.

1.3.1. Police department manpower.

1.3.2. Other manpower.

1.3.3. Supplies.

1.4. Maintenance.

PROCEDURES FOR THE RELEASE AND REVIEW OF REQUEST FOR PROPOSALS (RFP) FOR MICROFILM CONVERSION OF ARLINGTON POLICE DEPARTMENT RECORDS

The following procedures are a suggested strategy for the release and review of an RFP pursuant to the development of a microfilm records system for the Arlington Police Department.

1. Set a specific time and date for the submission of all proposals in response to the RFP. The RFP should contain a specification of this time and date and the vendors should be notified that all proposals must be postmarked on or before a specific date. It is suggested that the vendors be given 30 days from the time they receive the RFP to the deadline for the submission of proposals.

2. It is recommended that you provide copies of the RFP to as many vendors as possible. This will increase the Department's opportunity to choose from among various systems and will increase the competition among the vendors.

3. Assign one person in the Department to answer all questions that vendors have concerning the RFP prior to submission of proposals. This individual's name and telephone number should be listed in the RFP and it should be stated that all questions to this individual should be submitted on or before a predetermined date.

4. Assign a three to five member committee with the responsibility of reviewing all proposals and conducting oral interviews with each vendor. Ideally, this committee should be composed of representatives of the Police Department as well as experts in the field of record conversion and microfilm technology from the community. Such outside experts may be available in surrounding police departments or within city or county government. The purpose of this committee is to independently review each proposal submitted and to conduct oral interviews with each of the vendors. Each member of the committee should independently rate the proposals and the oral interviews, ranking the systems proposed by each vendor from the most desirable to the least desirable. It is extremely important that each member of the committee perform these ratings independently of the other members of the committee. This will enhance the opportunity for each committee member to provide his own insight and evaluation of each vendor and their proposed systems.

5. After the vendors have submitted their proposals, the committee should schedule one day during which oral interviews and demonstrations will be conducted by each vendor. It is suggested that these presentations not exceed 45 minutes per vendor, allowing approximately a half hour for the vendor's presentation and 15 minutes for questioning by the committee. It is suggested that the committee use a rating form in evaluating the presentations of the vendors. A proposed rating form is attached as an addendum to this report.

6. It is suggested that the presentations and oral interviews be conducted approximately two weeks after the submission of the proposals. The vendors should be notified as to the date of the oral interviews at least one week in advance.

7. After the conduct of the oral interviews, the committee should be allowed one week to review the proposals submitted by the vendors and their impressions of the oral interviews and demonstrations. At the end of this week the committee should reconvene and, as a committee, rank the various proposed systems from most desirable to least desirable. At the termination of this meeting, the committee should draft a letter to the Chief indicating their ranking of the various vendors, the system being most appropriate for purchase by the Department, and their reasons and justification for this choice. This memorandum from the committee with accompanying justification should be sufficient information for the final selection of the vendor.

8. After the Chief has made his decision as to which system will be purchased, it is recommended that the Chief notify all the vendors who submitted proposals, notifying them as to the selection made, and thanking them for their submission of proposals.

SUGGESTED CRITERIA FOR USE IN THE EVALUATION OF THE ORAL INTERVIEWS AND DEMONSTRATIONS

Listed below are a series of questions which might be used in conducting the oral interviews and demonstrations provided by the vendors. This is a suggested list of questions and by no means should the interviews be limited to these questions.

1. Has the vendor sold a comparable system to any other police department? If so, ascertain the name, address, and telephone number of the department. Follow-up telephone calls should be made to determine how satisfied these police departments are with the proposed system.

2. How reliable is the proposed system? Inquire as to the types of maintenance problems they have experienced with the proposed system. Inquire as to the most common maintenance problem, cost to correct this problem, and how long it takes to correct the problem.

3. Obtain a detailed description of the types of training he will provide the Police Department under the proposed system. This questioning should include the number of man days of training that will be provided, whether the specification of training will be included in the contract negotiated with the Department, and specifics as to exactly what type of training will be provided. Further questioning should address the number of personnel who will provide the training, how soon after the purchase of the system will the training be provided, the number of days of actual training that will be provided, and the type of training materials that the vendor will make available to the Department under a negotiated contract.

4. The vendor should be questioned as to the projected cost of operating the microfilm system five years after its installation. The vendor will be provided with statistical information in the RFP describing the various types of police activities and records associated with the Arlington Police Department. The vendor should be able to incorporate this information with the population projections provided and give detailed cost estimations as to operating costs in five years. The questioning should concern not only the estimated cost but how these cost estimates were calculated.

5. The vendor should be questioned as to what additional equipment will be needed for the microfilm system in five years. The questioning should attempt to ascertain the type of equipment that will be needed, relative costs, and the amount of floor space that will be required to contain the expanded system.

6. The vendor should be questioned as to the exact number of personnel required to operate the system at the time of installation, as well as in five years. This questioning should also include the level of competency required of the personnel and their training needs.

7. The Department has statistics on the number of back records contained in each of the files that will be converted. The vendor should be provided with this information and questioned as to the cost of converting these old records and the relative amount of time the conversion would take.

8. The vendor should be questioned as to the amount of time it takes to convert a record, including both old and incoming records. This is an important criterion, since the time consumed in converting the record to a microfilm format will indicate the amount of time such records are inaccessible for operational use.

9. The vendor should be questioned as to his availability to the Department once the system has been installed. Vendors who have service personnel located in the Arlington community are much more accessible than those who do not have service representatives in the area.

10. The vendor should be questioned as to whether his company is currently considering the marketing of an advanced microfilming system which will replace the one being proposed. If this is the case, there is the danger that the system purchased may become obsolete, creating difficulties in maintenance and the purchase of additional equipment.

11. Inquire if there are any special adjustments that must be made in the equipment to microfilm documents of different sizes and colors. Because many of the reports generated in the Arlington Police Department are handwritten, the vendor should be questioned whether the system can clearly film handwritten records as opposed to typed records.

APPENDIX

Forms and Tables

ARLINGTON POLICE DEPARTMENT

ARLINGTON, TEXAS

MICROFILM PROPOSAL EVALUATION

VENDOR _____ EVALUATOR _____ DATE _____

Evaluator

Criteria	Unsat 0-50	Poor 51-70	Sat 71-80	Good 81-90	Excel 91-100	Total
1. Understanding of Requirements						
a. Is the proposed microfilm system responsive to the R.F.P.?						
b. Does the proposal clearly show that the vendor understands the scope of the system and the final results expected?						
c. Does the proposal outline the major problems involved in a microfilm records system?						

TOTAL _____ = 4

2. Study Approach						
a. Is the proposed system's approach responsive to the R.F.P.?						
b. Does the proposal show a logical approach toward meeting the system objectives, and does it appear to be well-organized, clear, and without unnecessary detail?						
c. Does the proposal outline specific tasks to achieve the stated microfilm system objectives?						
d. Is a comprehensive and realistic schedule provided for accomplishing the implementation of the system within the guidelines stated in the R.F.P.?						

TOTAL _____ = 4

Criteria	Unsat 0-50	Poor 51-70	Sat 71-80	Good 81-90	Exc 91-100	Total
3. Depth and Distribution of Technical Effort						
a. Does the proposal place appropriate emphasis on the principal technical problems involved in the development of a microfilm records system?						
b. Has the vender made a reasonable five year projection as to the future cost and operational constraints of the proposed system?						
c. Has the vendor clearly indicated the advantages and limitations of the proposed microfilm system?						
d. Has the vendor clearly described the reliability and maintenance problems of the proposed system?						
e. Has the vendor specifically described the type of training which he will provide when the system is installed?						

TOTAL ____ = 5

4. Vendor's Experience						
a. Has the vendor sold similar systems to other police departments?						
b. Does the vender have sufficient experience with law enforcement record systems to be sensitive to the present and future state-of-the-art technology and problems in this area?						
c. Does the vendor indicate demonstrated, analytical and design capability in developing of law enforcement microfilm records system?						
d. Is the vendor's offices and/or facilities conveniently located to Arlington in the event of maintenance problems or additional training needs?						

TOTAL ____ = 4

Criteria	Unsat 0-50	Poor 51-70	Sat 71-80	Good 81-90	Excel 91-100	Total
5. Personnel Qualifications						
a. Do the personnel who will install the equipment and provide the training have the experience, education and record accomplishment commensurate with the scope of the system?						
b. Will the training personnel devote 100% of their time to training and be on cite as long as required to properly train police personnel in the operation of the system?						

TOTAL $\frac{\quad}{2}$ =

TECHNICAL EVALUATION SCORE SHEET

VENDOR _____ DATE _____

EVALUATOR _____

Criteria	Numerical Score 1	2	Final	Written Justification of Score (be specific)
1. Understanding of Requirement _____ X 25 = 100				
2. Study Approach _____ X 35 = 100				

Criteria	Numerical Score 1	2	Final	Written Justification of Score (be specific)
3. Depth and Distribution of Technical Effort _____ X 15 = 100				
4. Vendor's Experience _____ X 13 = 100				
5. Personnel Qualifications _____ X 12 = 100				
TOTAL				

SUMMARY OF [redacted]ERIA SCORES

EVALUATOR _____ DATE _____

VENDORS	CRITERIA FACTORS	Understanding of Requirements	Study Approach	Depth & Dist. of Tech. Effort	Vendor's Experience	Personnel Qualification	Total
	Rating	25	35	15	13	12	100

CONVERSION OF ADJECTIVE TO NUMERICAL RATING

For each major criteria:

$$\frac{\text{Adjective Rating}}{100} \times \text{Weighting Factor} = \text{Numerical Score}$$

Weighting Factors

1.	Understanding of Requirement	25 points
2.	Study Approach	35 points
3.	Depth and Distribution of Technical Effort	15 points
4.	Vendor's Experience	13 points
5.	Personnel Qualifications	12 points
	TOTAL	100 points

Table 1
Population Figures*

Year	Population	Year	Population
1960	45,000	1967	65,000
1961	47,000	1968	59,000
1962	49,000	1969	81,000
1973	52,000	1970	91,000
1964	54,000	1971	94,000
1965	57,000	1972	102,000
1966	60,000	1973	108,000

*The following future population projections of the City of Arlington have been made by Marvin Springer & Associates: 1980-175,000; 1990-260,000; 2000-340,000.

Table 2
Radio Calls Received & Completed Per 1000 Population

Year	Radio Calls	Radio Calls Per 1000 Population
1963		
1964		
1965		
1966	18,029	300
1967	21,310	328
1968	25,089	364
1969	31,079	384
1970	34,951	384
1971	39,809	424
1972	41,550	407
1973	43,283	401

Table 3
Accidents Investigated

Year	Accidents	Accidents Per 1000 Population
1963	1,526	29
1964	1,892	35
1965	2,173	38
1966	3,139	52
1967	3,272	50
1968	4,172	61
1969	5,035	62
1970	5,357	59
1971	5,318	57
1972	5,624	55
1973	6,162	57

Table 4
Criminal Cases Reported

Year	Criminal Cases	Per 1,000 Population	Year	Criminal Cases	Per 1,000 Population
1963			1968	4,486	65
1964			1969	5,681	70
1965	3,170	55.6	1970	7,054	77.5
1966	3,398	56.6	1971	7,380	78.5
1967	3,934	60.5	1972	7,329	71.9
			1973	8,288	76.7

Table 5
Total Supplemental Investigations

Year	Number of Investigations	Per 1,000 Population	Year	Number of Investigations	Per 1,000 Population
1963			1968	3,937	57
1964			1969	5,591	69
1965			1970	9,434	103.7
1966	1,499	24.9	1971	17,959	191
1967	1,915	29.5	1972	21,958	215
			1973	33,551	310.7

Table 6
Persons Registered in Jail

Year	Number of Persons	Per 1,000 Population	Year	Number of Persons	Per 1,000 Population
1963	2,598	49.9	1968	3,751	54
1964	2,965	54.9	1969	3,628	44.8
1965	2,620	45.9	1970	3,843	42
1966	2,903	48	1971	4,275	45.5
1967	3.157	48.6	1972	4,362	42.8
			1972	4,839	44.8

Table 7
Persons Fingerprinted

Year	Number of Persons	Per 1,000 Population	Year	Number of Persons	Per 1,000 Population
1963	393	7.6	1968	703	10
1964	246	4.6	1969	981	12
1965			1970	1,416	15.6
1966	704	11.7	1971	1,560	16.6
1967	802	12	1972	1,217	11.9
			1973	1,798	16.6

Table 8
Persons Photographed

Year	Number of Persons	Per 1,000 Population	Year	Number of Persons	Per 1,000 Population
1963	393	6.6	1968	546	7.9
1964	246	4.6	1969	607	7.5
1965			1970	943	10.4
1966	541	9	1971	2,182	23
1967	584	8.9	1972	2,370	23
			1973	2,930	27

Table 9
Arrest Reports Processed

Year	Number of Reports	Per 1,000 Population	Year	Number of Reports	Per 1,000 Population
1963			1968	3,751	54.5
1964			1969	3,628	44.8
1965	2,605	45.7	1970	3,843	42.2
1966	2,896	48.3	1971	4,275	45.5
1967	3,154	48.5	1972	4,362	42.8
			1973	4,849	44.9

Table 10
Total Police Calls Dispatched

Year	Number of Calls	Per 1,000 Population	Year	Number of Calls	Per 1,000 Population
1963			1968	25,089	363.6
1964			1969	31,079	383.7
1965			1970	34.951	384.1
1966	18,029	300.5	1971	39,809	423.5
1967	21,310	327.8	1972	41,550	407.4
			1973	43,283	400.8

Table 11
Juveniles Handled

Year	Number of Juveniles	Per 1,000 Population	Year	Number of Juveniles	Per 1,000 Population
1963			1968	680	9.9
1964			1969	708	8.7
1965	430	7.5	1970	913	10
1966	392	6.5	1971		
1967	478	7.4	1972	751	7.4
			1973	783	7.3

Table 12
Total Part I Offenses Reported

Year	Number of Offenses	Per 1,000 Population	Year	Number of Offenses	Per 1,000 Population
1963	1,486	28.6	1968	3,591	52
1964	1,963	36.4	1969	4,628	57
1965	2,225	39.6	1970	5,684	62.5
1966	2,723	45.4	1971	5,655	60.2
1967	3,106	47.8	1972	5,559	54.5
			1973	5,969	55.3

END